

Amendments to the Drawings:

The attached sheet of drawings include changes to FIG. 1. This sheet, which depicts FIG. 1, replaces that sheet depicting FIG. 1 currently on file. In FIG. 1 the legend - - Prior Art - - has been added.

Attachment: One (1) replacement sheet

REMARKS/ARGUMENTS

The claims are 1-7. Claim 3 has been amended to better define the invention. In amended FIG. 1, the legend - - Prior Art - - has been added as requested by the Examiner. Support for the claims may be found, *inter alia*, in the disclosure in the paragraph bridging pages 4-5. Reconsideration is expressly requested.

The Examiner objected to the drawings as failing to designate FIG. 1 with a legend such as - - Prior Art - -. In response, Applicants have amended FIG. 1 to add the legend - - Prior Art - - as requested by the Examiner, which it is respectfully submitted overcomes the Examiner's objection to the drawings on this basis.

Claim 3 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite in the use of the term "greater bandwidth obtaining". In response, Applicants have amended claim 3 to delete the term "greater bandwidth obtaining" and to specify that the method is based on exciting the even mode of the coupler to produce half-power signals with zero degree phase difference. It is respectfully submitted that the foregoing amendment overcomes the Examiner's rejection to claim 3 under 35 U.S.C. 112, second paragraph, and Applicants respectfully request that the rejection on this basis be withdrawn.

Claims 1-7 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Villeneuve et al.* U.S. Patent No. 6,130,969 for the reasons set forth on pages 3-4 of the Office Action. Essentially the Examiner's position was that *Villeneuve et al.* discloses the method recited in the claims except for features which were considered within the skill of the art.

This rejection is respectfully traversed.

As set forth in claim 1, Applicants' invention provides a method of dividing a guided electromagnetic signal into two half-power signals using photonic crystals. The method is based on exciting a coupler made by disposing two parallel coupled cavity waveguides close to one another, implemented in photonic crystals, in which the two guides are physically separated and can be suitably curved to extract the two output signals, output signals that cover the same physical path and so there is no delay between the two.

By dividing a guided electromagnetic signal into two half-power signals using photonic crystals as recited in claim 1, the

signals become suitable for integration with several divider units as functional units of more complex devices, and the high operational bandwidth achieved provides advantages over other methods of dividing power which are sensitive to frequency. In addition, the two output signals may be synchronized which allows for high-speed signal processing.

The primary reference to *Villeneuve et al.* discloses a device and method that are completely different from Applicants' method as recited in claim 1. *Villeneuve et al.* discloses an optic filter capable of extracting one frequency at a time out of a number of frequencies present in the input guide (*input* in FIGS. 1, 4, 10-12 and 21 of *Villeneuve et al.*), extracting it through a port (*drop* in the mentioned patent figures) while the rest of the frequencies in the input guide are transmitted unaltered through a different output port (*transmission* in the mentioned patent figures). There is no division of the input signal power in *Villeneuve et al.*, but rather a demultiplexion of a channel or frequency: some frequencies are directed to the *transmission* port and others to the *drop* port.

In contrast, Applicants' invention as recited in claim 1 aims at making a power divider for all the frequencies in the input

guide, without discriminating any of them. In other words, in Applicants' method as recited in claim 1, all input frequencies are equally distributed between the two output ports. Accordingly, it is respectfully submitted that claim 1 together with claims 2-7, which depend directly or indirectly thereon, are patentable over Villeneuve et al.

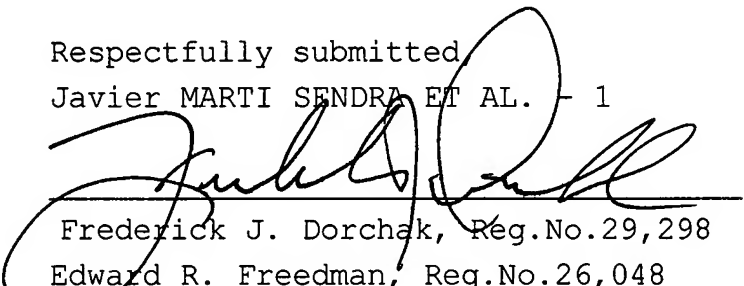
In summary, claim 3 has been amended along with FIG. 1 of the drawings. In view of the foregoing, it is respectfully requested that the claims be allowed and that this application be passed to issue.

Applicants also submit herewith a Supplemental Information Disclosure Statement.

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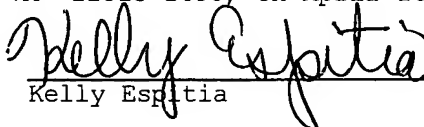
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Respectfully submitted
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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 16, 2007.



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APPENDIX